Replacement Sheet
Application No. 10/565,179

HIGH SPEED AIRSHIP

BACKGROUND OF THE INVENTION.

Most of airships are designed with a rigid frame structure that carries the entire load.
The drawback of the rigid frame is that it can be damaged easily, especially during hard landing,
not to mention the costs and weight of the rigid frame.
The passenger or cargo cabin is attached under the belly of the airship.

The blimp on the other hand, has no rigid frame, the inflated envelop carries the entire load.
The passenger and cargo cabin is attached under the belly of the blimp.

Each of these designs can lead to poor performance or even disasters.

By analyzing airship designs and disasters it become clear that:

#1 cause: Lack of rapid buoyancy control.
- The primary buoyancy of the airship is controlled by the volume of the helium, that is too slow to enable significant changes in an emergency, such as those caused by interruption with violent storm or turbulent air.
- The secondary buoyancy control is by using ballast, the most common ballast used is water, but in freezing temperature it becomes ice it can lead to disaster. Not to mention the waste of lifting power caused by the need of ballast.

#2 causes: Lack of flight control during landing and take off.
- If there is no airspeed, there is no rudder or elevator compensation, the airship is at the mercy of the wind.

#3 causes: Placing the passenger and crew cabin under the airship.
- In case of an emergency the airship crashes on the cabin and the ground crew, damaging the control mechanism, injuring or killing the crew and passengers, or if it happens over water the cabin sink below the water, the crew and the passengers may ground and the airship goes out of control.

#4 cause: The use of explosive hydrogen as a lifting gas. By using helium eliminates fire or explosion hazard.

My study resulted in a design that addresses all of these problems producing a safe, reliable and high speed airship.

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SUMMERY OF THE INVENTION

Multiple inflatable chambers are arranged in a multiple tubular cluster to structurally support each other, and to create a centrally located protected tunnel in the center of the airship, where
passengers or cargo can be placed. A highly aerodynamic cone shaped rigid frame cover which incorporates the cockpit and passenger and or cargo door is attached to both end of the airship.
This design reduces aerodynamic drag, vastly increases passenger safety and makes it possible to land on water also, solving the #3 cause of airship disasters.

The multiple inflatable chambers divided into multiple inflatable sections, wherein each section contains multiple inner tubes. One inner tube is reserved to contain helium, another inner tube is reserved to contain air, and this means that any of the chambers or any of the sections can be inflated with air or helium, or any percentage of air or helium without mixing the helium with air. The excess helium is pumped back and stored in an onboard container until further use, the helium recovery system controls the continuous pressure needed to maintain the rigidity of the body of the airship at the operating altitude controls the balance and buoyancy also and eliminate the use of ballast.

Multiple high power propulsion units attached to both sides of the airship can be independently rotated into any position of a 360 degree circle. The propeller thrust assures absolute and rapid control over speed, direction, altitude, balance and buoyancy, solving the #1 and #2 causes of airship disasters and eliminating the need for ground crew.

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DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1, the airship according to this invention comprises:

Envelop 10, adapted to contain helium or air.

Passenger or cargo tunnel 18, in the longitudinal center of the envelop 10.

Cone shape rigid frame cover 14, is attached to the front end of the envelop 10,

Cone shape rigid frame cover 15, is attached to the aft end of the envelop 10.

In the preferred embodiment, the airship has six propulsion unit 22, three propulsion unit on each side of the envelop 10, each propulsion unit contains engine, propeller and is attached to the envelop with a pivoting shaft, so each of the propellers plane of rotation can be independently rotated into any direction of the 360 degree circle.

Referring to FIG. 2, and FIG. 3, envelop 10, all fabrics structure has:

Multiple longitudinal dividers 13 are perpendicular to the longitudinal center line of the airship.

Multiple tubular dividers 11, and 12, which centerline same as the airship longitudinal center line, but having different radius.

Multiple cross dividers 17, to divide the longitudinal chambers to multiple sections, each section contains multiple inner tubes, an inner tube 19 is reserved for helium, and an inner tube 20 is reserved for air.

Multiple helium containers 16 all the way from the front end to the aft end of the airship.